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## CURRENT PREVALENCE OF COMMUNICABLE DISEASES IN THE UNITED STATES<sup>1</sup>

January 26-February 22, 1936

*Meningococcus meningitis*.—As expected, the number of cases of meningococcus meningitis increased during the current 4-week period. Each geographic section except the South Central reported an increase over the preceding 4-week period. In the South Central sections, a 20 percent decrease was reported for the current period. For the 4 weeks ended February 22 the number of cases for the entire reporting area was 800, which was more than 1.5 times the number reported for the corresponding period in 1935 and about 3.5 times the incidence in 1934. The current incidence was the highest for this period since 1930, when 1,001 cases were reported.

Each geographic area except the East and West North Central reported an increase over the corresponding period last year; in the North Central sections the incidence dropped to the level of last year. Since this disease was unusually prevalent during the entire year of 1935, an increase over the figures for that year places the current incidence at a very high level in comparison with preceding years. In the New England and Middle Atlantic, West North Central, and Mountain and Pacific sections the current incidence was the highest for this period since 1931; in the East North Central it was the highest since 1930; while in the South Atlantic and South Central regions the incidence was the highest in the 8 years for which data are available.

States from which a large number of cases were reported were New York, 74; Virginia, 63; Illinois, 50; Oklahoma, 48; Kentucky, 46; Texas and Maryland, 45 each; Ohio, 41; and Tennessee, 37.

*Influenza*.—The number of influenza cases rose from 9,901 for the preceding 4-week period to 28,549 for the 4 weeks ended February 22. Each section of the country contributed to the increase, but the sharpest rises were reported from the Mountain, East South Central, and South Atlantic sections. Only certain States, however, were apparently mostly responsible for the high incidence in those sections.

<sup>1</sup> From the Office of Statistical Investigations, U. S. Public Health Service. These summaries include only the 8 important communicable diseases for which the Public Health Service receives weekly telegraphic reports from the State health officers. The numbers of States included for the various diseases are as follows: Typhoid fever, 48; poliomyelitis, 48; meningococcus meningitis, 48; smallpox, 48; measles, 47; diphtheria, 48; scarlet fever, 48; influenza, 44 States and New York City. The District of Columbia is counted as a State in these reports.

California, in the Pacific section, reported 9,573 cases for the current 4 weeks; Alabama (East South Central), 2,510 cases; Georgia and South Carolina (South Atlantic), 2,456 and 4,391, respectively. Approximately two-thirds of the total cases occurred in those 4 States.

Compared with recent years the current incidence of influenza was about 80 percent of that for the corresponding period last year, when the minor epidemic of 1934-35 reached its peak during this period, but it was more than twice the incidence in 1934, which was a low influenza year. The number of cases in the Mountain and Pacific sections (10,662) was 1.8 times that of last year; the incidence in the South Atlantic, New England, and Middle Atlantic sections closely approximated the figures of last year, while in each of the remaining sections the number of cases was less than 50 percent of that of last year.

*Smallpox.*—Smallpox, which has been at the highest level in recent years, declined slightly during the current period. For the 4 weeks ended February 22 the number of cases totaled 754, as compared with 883, 607, and 748 for the corresponding period in the years 1935, 1934, and 1933, respectively. The highest incidence was still reported from States in the Mountain and Pacific and the North Central regions. Of the total cases, Nebraska reported 160; Washington, 68; South Dakota, 65; Wisconsin, 53; Kansas, 50; Colorado, 49; Iowa, 48; and Montana, 39. More than two-thirds of the cases occurred in these 8 States. One case was reported from the New England and Middle Atlantic region (Vermont); 4 cases were reported from the South Atlantic, as compared with 3 last year; and 19 from the South Central regions as against 235 (211 from Texas) for the corresponding period last year.

*Scarlet fever.*—For the country as a whole 29,134 cases of scarlet fever were reported for the current 4-week period, which was the highest incidence for this period in recent years. The West North Central and the Mountain and Pacific regions, where the disease has been unusually prevalent, reported a decline from the preceding 4-week period, but the number of cases was 2.3 and 1.5 times, respectively, the figures for those regions for the corresponding period last year, and in each region the incidence was the highest in the 8 years for which data are available. In the New England and Middle Atlantic and East North Central regions the disease continued to increase, and in the former area the number of cases was about 15 percent in excess of that for last year, while in the latter the incidence was only about 75 percent of that for last year. In the South Central regions the incidence was about normal, while in the South Atlantic region it was somewhat below the expectancy. In preceding years the peak of scarlet fever was most frequently reached during the month of March.

*Diphtheria.*—For the current 4-week period 2,369 cases of diphtheria were reported. In 1935, 1934, and 1933 the numbers of cases reported for this period were 2,874, 3,381, and 3,187, respectively. The South Atlantic region reported a slight increase over the incidence during this period last year and in the New England and Middle Atlantic area the current incidence closely approximated that of last year; in all other regions the disease was considerably less prevalent. All regions except the South Atlantic reported the lowest incidence in recent years.

*Poliomyelitis.*—As would be expected at this season, the number of cases of poliomyelitis continued to decline. For the 4 weeks ended February 22 the number of cases totaled 66, which was about 70 percent of the number reported for the corresponding period in 1935 and the same number as was reported for this period in 1934. In the New England and Middle Atlantic and the South Central regions the incidence was about on a level with that of the corresponding period in 1935; in the West North Central region, 10 cases were reported as against 5 last year. All other regions reported considerable decreases from the figures for this period last year. This disease usually reaches its lowest level during March or April.

*Measles.*—The reported cases of measles rose from 18,801 for the 4 weeks ended January 25 to 28,865 for the current 4-week period, an increase of approximately 10,000 cases. Each section of the country contributed to the increase. Compared with preceding years, the current incidence for the country as a whole was about 30 percent of that for the corresponding period in each of the years 1935 and 1934, and about 70 percent of the average for the more normal measles years, 1929 to 1933, inclusive. The disease was unusually prevalent in the Mountain and Pacific regions. While the number of cases in this area (9,756) did not reach the level of 1934 (11,276 cases), it was almost 1.4 times that reported for the same period last year and more than double the incidence in each of the years 1933 and 1932. In the regions along the Atlantic Coast the current incidence was the lowest since 1930; in the North Central region it was the lowest in the 8 years for which data are available; while in the South Central regions the incidence dropped to the level of 1932.

*Typhoid fever.*—For the 4 weeks ended February 22 the number of cases of typhoid fever totaled 364, as compared with 521, 619, and 481 for the corresponding period in the years 1935, 1934, and 1933, respectively. For the country as a whole, as well as for each geographic region except the West North Central and the Mountain and Pacific regions, the current incidence was the lowest in the 8 years for which data are available. In the West North Central region the number of cases (42) represented about a 50 percent increase over the incidence during this period in 1935, but it was below the average

for the 7 preceding years. In the Mountain and Pacific area the incidence was slightly above that for last year, but it was lower than in each of the 7 preceding years.

*Mortality, all causes.*—The average mortality rate from all causes in large cities, as reported by the Bureau of the Census, was 13.8 per 1,000 inhabitants (annual basis). This rate is the highest for this period since 1931, when a minor influenza epidemic was in progress at the time and the mortality rate was 14.2. The average rate for the years 1932 to 1935, inclusive, was 12.5. The cause for the high rate is not apparent unless the influenza, which appeared in epidemic-like form in some of the Western and Southern States during the last 2 weeks of the period, is of the more severe type and is causing more deaths. An examination of the data for individual cities located in those sections shows considerable increases over last year in the death rates during this period.

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### THE OFFICIAL UNITED STATES AND INTERNATIONAL UNIT FOR STANDARDIZING GAS GANGRENE ANTITOXIN (*Oedematiens*)

By IDA A. BENGTSON, *Senior Bacteriologist, United States Public Health Service*

As one of the participants in a project to promulgate an international standard to be used in measurements of the potency of gas gangrene antitoxin (*oedematiens*), the writer conducted tests with reagents received from Dr. Th. Madsen, of the Statens Seruminstitut of Denmark. These reagents were prepared in accordance with a decision of the Permanent Standards Commission of the Health Organization of the League of Nations that the said institute should "prepare a standard for gas gangrene antitoxin (*oedematiens*) by following the working plan which had been adopted earlier, when the international unit for gas gangrene antitoxin (*perfringens*) was established." A specimen of the proposed standard antitoxin and a specimen of toxin prepared at the Statens Seruminstitut were received in June 1934, together with protocols of tests designed to show that the antitoxin had been correctly assayed.

The proposed international unit was a unit which was exactly 10 times that proposed by the French, Dr. Weinberg having first proposed a unit for the measurement of the potency of *oedematiens* antitoxin. The antitoxin used for the standard was a serum taken from a horse immunized against gas gangrene toxin (*oedematiens*) and prepared for use as the standard without the addition of preservative. By means of an accurately working distributing apparatus, 5 cc of the serum was poured into dry sterile ampuls at the Copenhagen institute. These were placed in vacuum desiccators containing calcium chloride. Further drying was continued over phosphorus



anhydride. The drying process was continued until constant weight was reached. In a determination of the weights of 8 ampuls, the mean weight was 0.4290 gram, and the largest deviation from the mean was 0.16 percent.

The dry substance in each ampul had been found at Copenhagen to contain 1,600 of the proposed international units, 1 provisional unit being represented by 0.2681 milligrams. The contents of 2 ampuls was dissolved in 160 cc of a mixture of 66% percent glycerin and 33% percent physiological salt solution. One cubic centimeter of this solution therefore contained 20 provisional units.

A specimen of the test toxin of the Statens Seruminstitut was received but not utilized in the tests. Instead, a toxin was used that was prepared at the National Institute of Health as follows:

Meat medium containing approximately one-fourth ground beef and three-fourths nutrient broth adjusted to a reaction of pH 8.4 was distributed in 2-liter and 4-liter Erlenmyer flasks and sterilized in the autoclave for 30 minutes at 15 pounds' pressure. After sterilization, the reaction was approximately pH 7.0. Just prior to use, all flasks were heated one-half hour in streaming steam and cooled to about 40° C. Five percent of sterile normal horse serum was added to the medium, and each flask was inoculated with a tube of a 24-hour growth of culture. The culture used was one labeled *B. novyi* 140 and was received from Dr. Ivan C. Hall, of the University of Colorado. The same culture, labeled *Cl. novyi* (*B. oedematiens*) 140 no. 2908, was received from the National Type Culture collection of London. Incidentally, considerable variation was found in the toxin-producing properties of 16 cultures studied. In this respect *Cl. oedematiens* differs from *Vibrion septique*, which is very uniform in its toxin production, all strains apparently producing toxin of about the same strength. Four of the sixteen strains of *Cl. oedematiens* studied failed to produce toxin which was fatal to mice in doses of 0.5 cc, 2 produced toxin fatal to mice in doses of 0.1 cc, 4 produced toxin fatal in doses of 0.01 cc, and 2 in doses of 0.001 cc or less.

The flasks were incubated at 37.5° C. for a period of 3 days. The growth was filtered through sterile filter paper pulp and then through Mandler filters. The 60 liters of filtrate obtained were treated with 750 grams per liter of ammonium sulphate. The toxin which rose to the surface was skimmed off and transferred to Buchner funnels containing filter paper. By means of suction and the use of a dental rubber dam, as much as possible of the fluid was removed. The toxin was then dried over phosphorus pentoxide. The yield of toxin was 743 grams, or over 12 grams per liter. The minimal lethal dose for a 17- to 20-gram mouse was found to be in the neighborhood of 0.02 mg when inoculated intramuscularly, a potency which compared favorably with the toxins produced by other laboratories.

## DETERMINATION OF THE "TEST DOSE" OF TOXIN

Following the method of Madsen in determining the "test dose" of toxin, solutions were prepared as follows:

a. One cubic centimeter of the standard antitoxin was diluted to 100 cc so that 1 cc of the solution contained 0.2 of a provisional international unit.

b. The toxin was diluted so that 1 cc contained 20 mg.

In accordance with directions, the "mixtures of standard antitoxin solution and toxin solution are prepared in such a manner that 0.2 cc (the quantity to be injected in mice) contains 0.1 cc of the antitoxin solution (=0.02 P. unit)+varying quantities of the toxin solution.

"The mixtures are kept at the ordinary room temperature for 1 hour, following which they are injected intramuscularly in mice (0.2 cc). The animals are under observation for 3 days after the injection."

As a preliminary test, doses of toxin varying by 0.2 mg and ranging from 1.0 to 3.0 mg were tested against 0.02 of the provisional unit, using three mice on a dose. The results are shown in table 1.

TABLE 1.—Preliminary test for determination of the "test dose" of toxin. Antitoxin constant (0.02 provisional unit); toxin varied

Toxin 1 (milli-grams)	Number of mice	Number dead	Number surviving	Proportion surviving
1.0	3	0	3	3/3
1.2	3	0	3	3/3
1.4	3	0	3	3/3
1.6	3	0	3	3/3
1.8	3	0	3	3/3
2.0	3	3	0	0/3
2.2	3	3	0	0/3
2.4	3	3	0	0/3
2.6	3	3	0	0/3
2.8	3	3	0	0/3
3.0	3	3	0	0/3

The results of the test indicate that the "test dose" of toxin lies in the neighborhood of 2 mg. In a second test, in which seven mice were used on a dose, the "test dose" was at 2 mg, some of the mice dying and some surviving on this dose (table 2).

TABLE 2.—Determination of the "test dose" of toxin. Antitoxin constant (0.02 provisional unit); toxin varied

Toxin 1 (milli-grams)	Number of mice	Number dead	Number surviving	Proportion surviving
1.8	7	1	6	6/7
2.0	7	2	5	5/7
2.2	7	7	0	0/7

As a further check on the correctness of the test, the "test dose" of toxin was titrated against varying doses of antitoxin (table 3). Again some mice died and some survived on the dose of 0.02 unit of antitoxin.

TABLE 3.—Determination of the "test dose" of toxin. Antitoxin varied; toxin constant (2.0 mg)

Antitoxin (P. units)	Number of mice	Number dead	Number surviving	Proportion surviving
0.022 (0.11 cc of 1/100 dilution).....	7	1	6	6/7
0.02 (0.10 cc of 1/100 dilution).....	7	6	1	1/7
0.018 (0.09 cc of 1/100 dilution).....	7	7	0	0/7

#### DETERMINATION OF PROVISIONAL UNITS IN A SAMPLE OF ANTITOXIN OF UNSTATED POTENCY

A test was made to determine the number of P. units contained in a sample of *oedematis* antitoxin of unknown potency, submitted by Dr. Madsen. The potency was stated to lie between 300 and 400 units. The serum was therefore diluted on the basis of 350 units per cc, and varying amounts of this dilution were tested against the "test dose" of toxin (2 mg) (table 4). The results obtained indicate that the specimen contained 318 to 350 units of antitoxin per cc. Several tests were carried out in which it was attempted to obtain results for differences of 5 percent in the doses, but this was not found practicable. Apparently the test is not accurate for differences less than 10 percent. The results obtained in this test agree well with those obtained by the five other laboratories cooperating in the tests. The results reported by the other laboratories were 304-324, 300-325, 320, 325-330, and 330 units.

TABLE 4.—Determination of P. units in a sample of antitoxin of unknown potency

Number of P. units tested for	Anti-toxin diluted 1/1750	Toxin	Number of mice	Number dead	Surviving	
					Number	Proportion
437	Cc 0.08	Mg 2.0	7	7	0	0/7
390	.09	2.0	7	6	1	1/7
350	.10	2.0	7	6	1	1/7
318	.11	2.0	7	1	6	6/7
292	.12	2.0	7	0	7	7/7
STANDARD DILUTED 1/100						
20	0.10	2.0	7	2	5	5/7

## INTRACUTANEOUS TESTS ON GUINEA PIGS

In addition to the mouse tests recommended by Madsen, the method of intracutaneous testing on guinea pigs was made use of as was done in the standardization of gas gangrene antitoxin (*Vibrio septique*).

The standard antitoxin was diluted as for the mouse test, i. e., so that 1 cc contained 0.2 unit. A preliminary test was done to determine the method of diluting the toxin suitable for performing the test. Two dilutions, one containing 20 mg and one containing 30 mg were made.

The results using 20 mg per cc against 0.2 of the provisional unit were negative. With 30 mg per cc tested against the same amount of antitoxin, positive results were obtained with doses of 0.08 cc and above, while a slight reaction was obtained with 0.07 cc, and negative results with doses below this. A closer titration showed the test dose to be 0.075 cc of the dilution of toxin containing 30 mg per cc (table 5).

TABLE 5.—Intracutaneous testing on guinea pigs. Determination of the "test dose" of toxin. Antitoxin constant (0.02 provisional unit); toxin varied

Toxin 1 diluted to 30 mg per cc	24 hours	48 hours	72 hours
Cc			
0.085	+++	+++	++++
.08	+++	+++	++++
.075	++	++	+++
.07	+	+	+
.065	±		

+++ large reaction; necrosis.  
 ++ moderate reaction; slight necrosis.  
 + small reaction.  
 ± indefinite.  
 - negative.

As in the mouse test, the results obtained were checked by testing varying doses of antitoxin against the test dose of toxin. The results are shown in table 6. The dose of 0.02 unit of antitoxin produced a definite reaction, that of 0.022 unit was less marked, and that of 0.024 was practically negative, while the reactions with 0.018 and 0.016 unit were very marked.

TABLE 6.—Intracutaneous testing on guinea pigs. Determination of the "test dose" of toxin. Antitoxin varied; toxin constant (0.075 cc of toxin diluted to 30 mg per cc)

Antitoxin, P. units	24 hours	48 hours	72 hours
0.024 (0.12 cc of 1/100 dilution).....	+	+	+
0.022 (0.11 cc of 1/100 dilution).....	++	++	++
0.02 (0.10 cc of 1/100 dilution).....	+++	+++	+++
0.018 (0.09 cc of 1/100 dilution).....	++++	++++	++++
0.016 (0.08 cc of 1/100 dilution).....	++++	++++	++++



The slight reactions given by the smallest dose of toxin consisted of a small inflamed area about 0.2 cm in diameter and those on the next larger dose consisted of a larger inflamed area, about 0.5 cm in diameter. The dose which was adopted as the "test dose" of toxin showed a larger inflamed area, about 1 cm in diameter, and some necrosis. The reactions with still larger doses of toxin showed extensive inflammatory areas and marked necrosis.

The antitoxin of unknown potency was tested against the "test dose" of toxin, the antitoxin being diluted as for the mouse test and testing being made against 0.075 cc of the solution of toxin containing 30 mg per cc. The results agree well with those obtained in the mouse test and indicate a potency between 318 and 350 units per cc (table 7).

TABLE 7.—*Determination of P. units in a sample of oedematiens antitoxin of unknown potency. (Intracutaneous testing of guinea pigs.)*

Number of P. units tested for	Antitoxin diluted 1/1750	Toxin diluted to 30 mg per cc	24 hours	48 hours	72 hours
437	Cc 0.08	Cc 0.075	++	++++	++++
390	.09	.075	+	+++	+++
350	.10	.075	±	+	++
318	.11	.075	±	±	±
292	.12	.075	±	±	±
STANDARD ANTITOXIN DILUTED 1/100					
20	.10	0.075	±	++	++

#### THE INTERNATIONAL UNIT

The results of the various laboratories participating in the international tests, using the reagents and the serum of unknown potency furnished by the Statens Seruminstitut, confirmed those obtained at that institute. It was therefore recommended at a meeting of the Permanent Commission on Biological Standardization of the Health Organization of the League of Nations held at Copenhagen from August 28 to 30, 1934, "that the dry stable standard gas gangrene antitoxin (*oedematiens*) prepared at the Statens Seruminstitut, Copenhagen, be accepted as the international standard for this antitoxin and that the specific antitoxic activity contained in 0.2681 mg of the dry standard preparation be defined as the international unit" (1).

#### THE UNITED STATES STANDARD ANTITOXIN

Antitoxin suitable for use as a standard was not available at the time of making the international tests. Later, however, 2 liters of *oedematiens* antitoxin without preservative were obtained from the Lederle Laboratories, Inc. This was measured accurately in 10 cc

amounts into 30 cc pyrex glass ampuls. After drying in vacuum jars over phosphorus pentoxide, small agglutination tubes containing phosphorus pentoxide were placed in each ampul and the ampuls were filled with nitrogen and sealed.

The contents of one ampul was dissolved in salt solution (0.85 percent) and made up to 100 cc. One cc amounts of this were diluted 1/50 and 1/100 for preliminary titration. The dilution of 1/50 was found to be too concentrated. Using the 1/100 dilution, the dose of antitoxin was fixed at about 0.07 cc against the "test dose" of toxin as shown in table 8.

TABLE 8.—*Determination of the amount of the United States standard antitoxin equivalent to the international unit of antitoxin. Toxin constant (2.0 mg).*

Amount of antitoxin	Number of mice	Number dead	Number surviving	Proportion surviving
0.08 cc of 1/10000 dilution.....	7	1	6	6/7
0.07 of 1/10000 dilution.....	7	4	3	3/7
0.06 of 1/10000 dilution.....	7	6	1	1/7

In accordance with these results, the antitoxin in one of the ampuls containing the dried residue of 10 cc of serum was diluted so that the amount corresponding to 0.02 of the international unit would be contained in 0.1 cc. The dilution was made as follows:

Contents of ampul was diluted to 143 cc with 66½ percent glycerin and 33¼ percent salt solution.

1 cc of 1/143 dilution diluted 1/100.

1 cc of 1/100 dilution contains 0.2 international unit.

A test was carried out with the 1/100 dilution using varying doses of the antitoxin against the "test dose" of toxin. A parallel test was made using the international standard. The results of this test are shown in table 9.

TABLE 9.—*Determination of the amount of the United States standard equivalent to the international unit of antitoxin. Toxin constant (2.0 mg)*

Units of antitoxin	Amount of dilution	Number of mice	Number dead	Number surviving	Proportion surviving
UNITED STATES					
	Cc.				
0.024.....	0.12	6	0	6	6/6
0.02.....	.10	6	2	4	4/6
0.016.....	.08	6	6	0	0/6
INTERNATIONAL					
0.024.....	.12	6	0	6	6/6
0.02.....	.10	6	1	5	5/6
0.016.....	.08	6	5	1	1/6

The results of the test show close agreement between the United States and the international standards. On the basis of the tests

made, the dried residue of the 10 cc of serum in the ampul contained 2,860 units.

The weights of the dried residue contained in 5 ampuls were determined, with the following results: 0.9811 gram, 0.9871 gram, 0.9830 gram, 0.9847 gram, and 0.9834 gram. The average weight was 0.9838 gram, and the largest deviation from the mean was 0.33 percent. Calculating from the average weight, 0.9838 gram, one unit is contained in 0.3440 milligram. This amount is therefore equivalent to 0.2681 milligram of the international standard.

In accordance with the international agreement regarding the size of the unit, the following statement was issued by the National Institute of Health, Washington:

NATIONAL INSTITUTE OF HEALTH  
TWENTY-FIFTH AND E STREETS NW.  
WASHINGTON, D. C.

*October 31, 1935.*

It is proposed to adopt as the official unit for the measurement of the potency of oedematis antitoxin the equivalent of the international unit adopted by the Permanent Commission on Biological Standardization of the Health Organization of the League of Nations, this unit being that amount of antitoxin contained in a specified amount of the international standard serum. The equivalent of the international unit is that amount of antitoxin contained in 0.3440 milligram of the dried standard serum prepared at the National Institute of Health. The dried serum as dissolved and diluted for distribution contains 20 units in 1 cc.

The standard unit will be distributed on special request addressed to the Director of the National Institute of Health.

It is expected that this unit will be employed by all producers not later than April 1, 1936.

G. W. McCoy,  
*Director, National Institute of Health.*

SUPPLEMENTAL

POTENCY OF COMMERCIAL AND OTHER ANTITOXINS

A number of antitoxins were available for test. These included 6 commercial antitoxins, of which 4 were monovalent and 2 polyvalent (containing antitoxins against several other anaerobic toxins), 2 from the Pasteur Institute and 1 from Dr. Sordelli of the Argentine Republic. These were tested against the "test dose" of the United States toxin with the following results:

- (1) 20-40 units per cubic centimeter.
- (2) 20 units per cubic centimeter.
- (3) 200 units per cubic centimeter.
- (4) 140 units per cubic centimeter.
- (5) 90 units per cubic centimeter.
- (6) 40-80 units per cubic centimeter.
- (7) 5 units per cubic centimeter.
- (8) 10 units per cubic centimeter.
- (9) over 360 units per cubic centimeter.

## "TEST DOSE" OF VARIOUS TOXINS

Four toxins received from Great Britain, Argentine Republic, France, and Denmark, respectively, were tested to determine the "test dose" against 0.02 unit of the international standard. The approximate minimal lethal dose of the toxins was also determined. The number of minimal lethal doses in the "test doses" of the various toxins were calculated from these figures. The results are shown in table 10.

TABLE 10.—"Test dose" and approximate minimal lethal dose of various toxins

Toxin	"Test dose"	Minimal lethal dose	Number of minimal lethal doses per "test dose"	Toxin	"Test dose"	Minimal lethal dose	Number of minimal lethal doses per "test dose"
	Mg.	Mg.			Mg.	Mg.	
1.....	1.6	0.03	53	4.....	5.0	0.16	31
2.....	.25	.01	25	United States.....	2.0	.02	100
3.....	.45	.008	56				

## DETERIORATION OF TOXIN

Some tests were made to determine the effect of variations of temperature and light on the toxin. Specimens of the dried toxin were placed in 4 dry, stoppered bottles and exposed to the following conditions:

- (1) In warm room (37.5° C.) in the dark.
- (2) At room temperature in the dark.
- (3) Exposure to sunlight outside window.
- (4) Storage in cold room (4° to 5° C.) in vacuum jar.

After being retained for 4 months under the conditions described, the toxins were tested against 0.02 unit of the international standard. The amounts of toxin which when mixed with the dose of antitoxin used caused the death of some of the mice and allowed others to survive were as follows:

	Mg.
Warm room in the dark.....	2.8
Room temperature in the dark.....	2.8
Exposure to sunlight outside window.....	2.4
Storage at 4° to 5° C. in vacuo.....	2.0

Curiously, the specimen exposed to sunlight outside the window showed less deterioration than those maintained indoors. However, the experiment was carried out during the winter months when the outside temperature was much lower than that indoors. The same specimen was exposed further to the action of the sunlight and to heat during the 3½ months from April to July. After this length of time a dose of 4.2 mg was necessary to cause the death of some of the mice. The results of the experiments indicate that temperature is a more important factor in the deterioration of the toxin than light.

## SUMMARY

Tests were carried out in cooperation with the laboratories of 5 other countries, using reagents furnished by the Statens Seruminstitut of Denmark, with a view to establishing an international standard for measuring the potency of gas gangrene antitoxin (*oedematiens*). The proposed international unit was contained in 0.2681 milligram of the dried serum preparation of the Statens Seruminstitut of Denmark. This unit was adopted as the international unit at a meeting of the Permanent Commission on Biological Standardization held at Copenhagen from August 28 to 30, 1934.

A dried serum to be used as the standard for the United States was prepared and its potency determined in terms of the international unit. The equivalent of the international unit was found to be contained in 0.3440 milligram of the dried serum prepared at the National Institute of Health. The equivalent unit was adopted as the United States official unit in October 1935.

The results obtained in the evaluation of an antitoxin of unknown potency submitted by the Statens Seruminstitut of Denmark agreed well with those obtained by the other 5 laboratories cooperating in the tests. The potency of several commercial antitoxins was also determined in terms of the international unit.

The minimal lethal doses of several specimens of toxin and the relation of these to the "test doses" of these toxins against 0.02 of the international unit were determined. The "test dose" of the United States toxin was found to contain 100 minimal lethal doses.

Tests were carried out to determine the amount of deterioration of the toxin when subjected to varying conditions of light and temperature. High temperatures were found to be a greater factor in the deterioration than light.

## REFERENCE

- (1) Quarterly bulletin of the Health Organization, League of Nations, Special Number, January 1935.

## DEATHS DURING WEEK ENDED FEBRUARY 22, 1936

[From the Weekly Health Index, issued by the Bureau of the Census, Department of Commerce]

	Week ended Feb. 22, 1936	Correspond- ing week, 1935
Data from 56 large cities of the United States:		
Total deaths.....	10,041	8,682
Deaths per 1,000 population, annual basis.....	14.0	12.1
Deaths under 1 year of age.....	567	582
Deaths under 1 year of age per 1,000 estimated live births.....	81	63
Deaths per 1,000 population, annual basis, first 8 weeks of year.....	13.5	12.9
Data from industrial insurance companies:		
Policies in force.....	67,958,356	67,351,397
Number of death claims.....	14,938	12,909
Death claims per 1,000 policies in force, annual rate.....	11.5	10.0
Death claims per 1,000 policies, first 8 weeks of year, annual rate.....	10.6	10.7



# PREVALENCE OF DISEASE

*No health department, State or local, can effectively prevent or control disease without knowledge of when, where, and under what conditions cases are occurring*

## UNITED STATES

### CURRENT WEEKLY STATE REPORTS

These reports are preliminary, and the figures are subject to change when later returns are received by the State health officers

Reports for Weeks Ended February 29, 1936, and March 2, 1935

Cases of certain communicable diseases reported by telegraph by State health officers for weeks ended Feb. 29, 1936, and Mar. 2, 1935

Division and State	Diphtheria		Influenza		Measles		Meningococcus meningitis	
	Week ended Feb. 29, 1936	Week ended Mar. 2, 1935	Week ended Feb. 29, 1936	Week ended Mar. 2, 1935	Week ended Feb. 29, 1936	Week ended Mar. 2, 1935	Week ended Feb. 29, 1936	Week ended Mar. 2, 1935
<b>New England States:</b>								
Maine.....		2	5	15	255	221	0	0
New Hampshire.....			1		13	30	0	0
Vermont.....		1			496	3	0	0
Massachusetts.....	8	17			916	531	12	1
Rhode Island.....		3			43	68	1	0
Connecticut.....	4	5	17	32	91	785	2	1
<b>Middle Atlantic States:</b>								
New York.....	51	34	178	120	2,636	2,111	27	14
New Jersey.....	16	30	62	28	159	842	7	3
Pennsylvania.....	41	63			797	4,620	6	9
<b>East North Central States:</b>								
Ohio.....	35	78	127	174	421	1,390	12	14
Indiana.....	27	38	48	115	40	528	1	9
Illinois.....	30	44	42	71	28	2,802	16	20
Michigan.....	7	6	10	17	44	2,314	4	2
Wisconsin.....	2	1	64	196	84	2,141	3	0
<b>West North Central States:</b>								
Minnesota.....	3	2	2	41	289	2,452	1	3
Iowa.....	15	10	6	99	4	1,481	3	1
Missouri.....	19	49	650	355	20	662	12	10
North Dakota.....	5	2	12	9		49	0	3
South Dakota.....	3	2	2			14	2	0
Nebraska.....	9	8			29	468	0	2
Kansas.....	15	19	32	29	12	1,552	3	3
<b>South Atlantic States:</b>								
Delaware.....		2			66	5	1	0
Maryland.....	9	9	72	53	146	62	11	4
District of Columbia.....	22	25	2	3	25	13	7	6
Virginia.....	11	14			86	916	48	1
West Virginia.....	12	16	218	236	21	448	9	1
North Carolina.....	16	19	482	174	55	787	8	2
South Carolina.....	3	3	1,509	534	12	72	16	7
Georgia.....	6	8	1,819	304			9	0
Florida.....	8	4	33	49	6	102	2	2

See footnotes at end of table.

*Cases of certain communicable diseases reported by telegraph by State health officers  
for weeks ended Feb. 29, 1936, and Mar. 2, 1935—Continued*

Division and State	Diphtheria		Influenza		Measles		Meningococcus meningitis	
	Week ended Feb. 29, 1936	Week ended Mar. 2, 1935	Week ended Feb. 29, 1936	Week ended Mar. 2, 1935	Week ended Feb. 29, 1936	Week ended Mar. 2, 1935	Week ended Feb. 29, 1936	Week ended Mar. 2, 1935
<b>East South Central States:</b>								
Kentucky.....	16	15	80	117	73	1,001	42	2
Tennessee.....	14	12	338	175	52	41	0	6
Alabama <sup>1</sup> .....	28	15	2,383	880	5	463	1	2
Mississippi <sup>1</sup> .....	4	2					3	0
<b>West South Central States:</b>								
Arkansas.....	3	3	140	113	2	58	3	2
Louisiana.....	15	23	78	37	51	131	3	1
Oklahoma <sup>1</sup> .....	10	12	256	244	13	54	10	2
Texas <sup>1</sup> .....	15	56	655	897	418	187	5	10
<b>Mountain States:</b>								
Montana.....	1	5	45	320	16	180	1	3
Idaho.....			3	1	15	82	0	0
Wyoming.....	1				8	104	0	1
Colorado.....	4	13			9	736	2	1
New Mexico.....	9	8	8	30	18	15	1	1
Arizona.....	5	1	304	38	37	26	0	1
Utah <sup>1</sup> .....	1				1	12	1	0
<b>Pacific States:</b>								
Washington.....	1	3	4	1	261	132	1	0
Oregon.....	2	2	267	109	733	116	0	0
California.....	33	46	1,661	202	1,890	564	11	4
<b>Total.....</b>	<b>548</b>	<b>720</b>	<b>11,515</b>	<b>5,727</b>	<b>10,396</b>	<b>31,371</b>	<b>307</b>	<b>154</b>
<b>First 9 weeks of year.....</b>	<b>5,918</b>	<b>6,969</b>	<b>49,965</b>	<b>75,528</b>	<b>58,065</b>	<b>177,695</b>	<b>1,775</b>	<b>987</b>

Division and State	Polioomyelitis		Scarlet fever		Smallpox		Typhoid fever	
	Week ended Feb. 29, 1936	Week ended Mar. 2, 1935	Week ended Feb. 29, 1936	Week ended Mar. 2, 1935	Week ended Feb. 29, 1936	Week ended Mar. 2, 1935	Week ended Feb. 29, 1936	Week ended Mar. 2, 1935
<b>New England States:</b>								
Maine.....	1	0	14	21	0	0	0	2
New Hampshire.....	0	0	3	13	0	0	0	0
Vermont.....	0	0	19	13	0	0	1	1
Massachusetts.....	0	2	285	220	0	0	3	1
Rhode Island.....	0	0	35	12	0	0	0	0
Connecticut.....	1	0	89	67	0	0	1	2
<b>Middle Atlantic States:</b>								
New York.....	1	2	1,277	948	0	0	6	10
New Jersey.....	1	0	520	160	0	0	3	0
Pennsylvania.....	1	2	512	720	0	0	1	6
<b>East North Central States:</b>								
Ohio.....	0	1	491	1,282	0	0	5	3
Indiana.....	0	0	344	303	1	1	8	5
Illinois.....	0	1	969	1,199	6	4	2	6
Michigan.....	0	0	297	408	0	0	1	0
Wisconsin.....	0	0	615	572	15	15	0	0
<b>West North Central States:</b>								
Minnesota.....	0	0	372	149	3	14	1	0
Iowa.....	0	1	106	73	20	4	3	4
Missouri.....	0	0	219	93	17	3	2	2
North Dakota.....	0	0	124	63	17	0	0	0
South Dakota.....	0	0	62	8	31	3	1	1
Nebraska.....	0	3	238	36	23	39	0	0
Kansas.....	0	1	325	95	47	6	1	0
<b>South Atlantic States:</b>								
Delaware.....	0	0	9	26	0	0	0	0
Maryland <sup>1</sup> .....	0	1	98	93	0	0	3	3
District of Columbia.....	0	0	30	55	0	0	1	0
Virginia.....	1	0	57	50	0	0	2	9
West Virginia.....	0	0	44	125	1	0	1	3
North Carolina <sup>1</sup> .....	1	1	34	37	0	0	0	1
South Carolina.....	0	0	5	2	0	0	0	1
Georgia <sup>1</sup> .....	0	0	24	4	1	0	1	3
Florida <sup>1</sup> .....	0	1	4	4	0	0	0	2

See footnotes at end of table.

*Cases of certain communicable diseases reported by telegraph by State health officers for weeks ended Feb. 29, 1936, and Mar. 2, 1935—Continued*

Division and State	Polio-myelitis		Scarlet fever		Smallpox		Typhoid fever	
	Week ended Feb. 29, 1936	Week ended Mar. 2, 1935	Week ended Feb. 29, 1936	Week ended Mar. 2, 1935	Week ended Feb. 29, 1936	Week ended Mar. 2, 1935	Week ended Feb. 29, 1936	Week ended Mar. 2, 1935
<b>East South Central States:</b>								
Kentucky.....	1	0	76	52	0	0	0	8
Tennessee.....	0	0	24	28	0	0	1	1
Alabama <sup>1</sup> .....	3	1	30	10	0	0	5	3
Mississippi <sup>2</sup> .....	0	0	14	12	0	3	1	3
<b>West South Central States:</b>								
Arkansas.....	1	0	9	8	1	1	4	0
Louisiana.....	0	2	19	12	3	2	3	7
Oklahoma <sup>3</sup> .....	1	0	22	39	8	1	2	2
Texas <sup>4</sup> .....	0	1	38	82	0	7	4	7
<b>Mountain States:</b>								
Montana.....	0	0	137	8	8	7	1	1
Idaho.....	0	0	92	4	4	0	1	0
Wyoming.....	0	0	127	9	1	2	0	0
Colorado.....	0	0	154	314	8	0	2	3
New Mexico.....	0	1	112	13	0	1	4	7
Arizona.....	0	0	34	10	2	0	2	0
Utah <sup>1</sup> .....	0	0	143	92	1	0	0	0
<b>Pacific States:</b>								
Washington.....	0	1	81	65	13	11	1	1
Oregon.....	1	0	34	49	1	0	0	1
California.....	3	11	410	303	1	1	4	2
<b>Total.....</b>	<b>17</b>	<b>33</b>	<b>8,777</b>	<b>7,961</b>	<b>233</b>	<b>125</b>	<b>88</b>	<b>111</b>
<b>First 9 weeks of year.....</b>	<b>187</b>	<b>249</b>	<b>66,169</b>	<b>60,068</b>	<b>2,028</b>	<b>1,759</b>	<b>973</b>	<b>1,261</b>

<sup>1</sup> New York City only.

<sup>2</sup> Week ended earlier than Saturday.

<sup>3</sup> Typhus fever, week ended Feb. 29, 1936, 12 cases, as follows: North Carolina, 1; Georgia, 4; Florida, 1; Alabama, 5; Texas, 1.

<sup>4</sup> Exclusive of Oklahoma City and Tulsa.

### SUMMARY OF MONTHLY REPORTS FROM STATES

The following summary of cases reported monthly by States is published weekly and covers only those States from which reports are received during the current week:

State	Menin- gococ- cus menin- gitis	Diph- theria	Infl- uen- za	Mala- ria	Mea- sles	Pel- lagra	Polio- mye- litis	Scarlet fever	Small- pox	Ty- phoid fever
<i>December 1935</i>										
Arizona.....	2	34	267	2	8	-----	1	126	0	0
<i>January 1936</i>										
Arizona.....	6	37	599	-----	36	2	0	180	0	1
California.....	31	229	605	8	4,461	6	17	1,867	30	35
Montana.....	3	12	157	-----	120	-----	0	805	80	7
Nevada.....	1	5	25	-----	17	-----	0	78	4	1
New Hampshire.....	-----	4	-----	-----	-----	-----	0	40	0	0
New York.....	85	177	-----	10	4,223	-----	9	3,565	0	29
North Dakota.....	2	4	31	-----	47	-----	0	261	56	1
Oklahoma <sup>1</sup> .....	48	54	843	44	5	-----	1	165	1	12
Pennsylvania.....	20	224	64	-----	1,811	1	6	2,184	0	30
Washington.....	5	9	-----	-----	890	-----	1	416	86	9
Wisconsin.....	8	11	204	-----	392	-----	1	2,385	71	7

December 1935		January 1936—Continued		January 1936—Continued	
	Cases		Cases		Cases
Arizona:		German measles—Con.		Septic sore throat—Con.	
Chicken pox.....	100	Montana.....	20	New York.....	94
Dysentery.....	10	New York.....	382	North Dakota.....	2
German measles.....	12	Pennsylvania.....	409	Oklahoma <sup>1</sup> .....	30
Mumps.....	229	Washington.....	213	Washington.....	1
Septic sore throat.....	4	Wisconsin.....	122	Wisconsin.....	13
Trachoma.....	26	Granuloma, coccidioidal:		Tetanus:	
Whooping cough.....	28	California.....	6	California.....	5
		Hookworm disease:		New York.....	3
		California.....	1	Trachoma:	
January 1936		Impetigo contagiosa:		Arizona.....	23
Actinomycosis:		Washington.....	3	California.....	15
California.....	1	Jaundice, epidemic:		Montana.....	1
Anthrax:		California.....	2	North Dakota.....	2
New York.....	1	Leprosy:		Oklahoma <sup>1</sup> .....	10
Pennsylvania.....	2	California.....	3	Trichinosis:	
Chicken pox:		Mumps:		California.....	11
Arizona.....	175	Arizona.....	369	New York.....	37
California.....	3, 117	California.....	2, 459	Pennsylvania.....	10
Montana.....	213	Montana.....	1, 096	Tularemia:	
Nevada.....	14	Nevada.....	20	Montana.....	1
New York.....	3, 496	North Dakota.....	672	Pennsylvania.....	2
North Dakota.....	77	Oklahoma <sup>1</sup> .....	52	Wisconsin.....	3
Oklahoma <sup>1</sup> .....	98	Pennsylvania.....	2, 583	Typhus fever:	
Pennsylvania.....	4, 796	Washington.....	516	Arizona.....	1
Washington.....	489	Wisconsin.....	4, 767	New York.....	2
Wisconsin.....	3, 159	Ophthalmia neonatorum:		Undulant fever:	
Dysentery:		California.....	4	Arizona.....	2
Arizona.....	19	New York.....	5	California.....	18
California (amoebic).....	8	Oklahoma <sup>1</sup> .....	2	New York.....	18
California (bacillary).....	3	Pennsylvania.....	7	Oklahoma <sup>1</sup> .....	5
Montana (bacillary).....	1	Paratyphoid fever:		Pennsylvania.....	6
New York (bacillary).....	16	California.....	4	Washington.....	3
Oklahoma <sup>1</sup> .....	4	New York.....	4	Wisconsin.....	5
Washington (amoebic).....	1	Rabies in animals:		Vincent's infection:	
Epidemic encephalitis:		California.....	122	New York <sup>1</sup> .....	79
Arizona.....	2	New York <sup>1</sup> .....	5	North Dakota.....	3
California.....	9	Washington.....	4	Oklahoma <sup>1</sup> .....	3
New York.....	9	Rocky Mountain spotted fever:		Whooping cough:	
Oklahoma <sup>1</sup> .....	1	Pennsylvania.....	1	Arizona.....	23
Washington.....	1	Scabies:		California.....	831
Wisconsin.....	2	Oklahoma <sup>1</sup> .....	6	Montana.....	100
Food poisoning:		Septic sore throat:		New York.....	1, 453
California.....	12	Arizona.....	5	North Dakota.....	2
German measles:		California.....	16	Oklahoma <sup>1</sup> .....	38
Arizona.....	18	Montana.....	9	Pennsylvania.....	1, 329
California.....	816			Washington.....	88
				Wisconsin.....	670

<sup>1</sup> Exclusive of Oklahoma City and Tulsa.<sup>2</sup> Exclusive of New York City.

## WEEKLY REPORTS FROM CITIES

City reports for week ended Feb. 22, 1936

This table summarizes the reports received weekly from a selected list of 140 cities for the purpose of showing a cross-section of the current urban incidence of the communicable diseases listed in the table. Weekly reports are received from about 700 cities, from which the data are tabulated and filed for reference.

State and city	Diphtheria cases	Influenza		Measles cases	Pneumonia deaths	Scarlet fever cases	Small-pox cases	Tuberculosis deaths	Typhoid fever cases	Whooping cough cases	Deaths, all causes
		Cases	Deaths								
<b>Maine:</b>											
Portland	0		0	0	5	1	0	2	0	7	21
<b>New Hampshire:</b>											
Concord	0		1	0	2	1	0	1	0	0	20
Manchester	0		0	1	8	4	0	0	0	0	23
Nashua	0			1		0	0		0		
<b>Vermont:</b>											
Barre											
Burlington	0		0	0	0	0	0	0	0	0	9
Rutland	0		0	11	1	5	0	0	0	0	8
<b>Massachusetts:</b>											
Boston	4		1	156	34	71	0	11	0	3	263
Fall River	0		2	0	3	9	0	0	0	0	46
Springfield	0		0	3	10	4	0	1	0	7	47
Worcester	0		0	0	8	20	0	2	0	4	58
<b>Rhode Island:</b>											
Pawtucket	0		0	0	0	0	0	0	0	0	15
Providence	0		2	12	14	12	0	0	0	6	77
<b>Connecticut:</b>											
Bridgeport	0		2	8	8	2	0	1	0	5	43
Hartford	0		0	4	13	4	0	1	0	0	48
New Haven	0	1	0	1	6	1	0	1	0	23	51
<b>New York:</b>											
Buffalo	0		0	25	15	86	0	6	0	18	147
New York	33	92	14	979	309	358	0	102	2	57	1,980
Rochester	0		0	1	10	3	0	2	0	1	92
Syracuse	0		0	77	3	4	0	0	0	15	52
<b>New Jersey:</b>											
Camden	4	0	1	1	3	1	0	1	0	2	28
Newark	0	3	2	7	14	115	0	3	2	14	89
Trenton	0		0	1	5	2	0	1	0	13	33
<b>Pennsylvania:</b>											
Philadelphia	8	8	4	313	50	83	0	24	0	61	548
Pittsburgh	11	0	3	20	45	78	0	5	0	9	205
Reading	0		0	2	4	11	0	1	0	4	32
Scranton	1			48		10	0		0	0	
<b>Ohio:</b>											
Cincinnati	4	7	2	1	21	19	0	9	0	0	157
Cleveland	3	36	1	103	30	43	0	12	0	72	225
Columbus	1	1	1	2	13	16	0	3	0	2	99
Toledo	0	2	1	34	9	10	0	5	0	10	68
<b>Indiana:</b>											
Anderson	2		0	0	3	2	0	0	0	9	11
Fort Wayne	2		0	0	1	5	0	0	0	0	20
Indianapolis	3		2	1	30	44	0	3	0	21	113
Muncie	0		0	0	1	0	0	0	0		5
South Bend	0		0	1	2	3	0	2	0	5	12
Terre Haute	0		2	0	4	4	0	0	0	0	36
<b>Illinois:</b>											
Alton	0		0	1	1	2	0	0	0	0	1
Chicago	14	15	4	6	80	237	1	38	2	108	786
Elgin	0		0	0	0	3	0	0	0	1	5
Moline	0		0	1	1	24	0	0	0	2	12
Springfield	0	1	0	1	4	17	0	0	0	2	28
<b>Michigan:</b>											
Detroit	7	10	4	26	37	120	0	19	0	157	281
Flint	1		0	0	5	11	0	0	0	23	37
Grand Rapids	0		1	6	3	12	0	0	0	2	40
<b>Wisconsin:</b>											
Kenosha	0		0	0	1	3	0	0	0	5	10
Milwaukee	0	1	1	5	7	105	0	7	0	48	106
Racine	0		0	0	1	20	0	0	0	1	13
Superior	0		0	0	1	10	0	0	0	0	9
<b>Minnesota:</b>											
Duluth	0		0	0	3	9	0	0	0	2	18
Minneapolis	1		1	97	19	80	0	1	0	5	128
St. Paul	0	1	1	39	15	47	0	5	0	2	80



## City reports for week ended Feb. 22, 1936—Continued

State and city	Diph- theria cases	Influenza		Meas- les cases	Pneu- monia deaths	Scar- let fever cases	Small- pox cases	Tuber- culosis deaths	Ty- phoid fever cases	Whoop- ing cough cases	Deaths, all causes
		Cases	Deaths								
Iowa:											
Cedar Rapids	0			0		2	1		0	1	
Davenport	0			1		9	0		0	0	
Des Moines	2			0		2	0		0	0	40
Sioux City	0			0		3	12		0	1	
Waterloo	1			0		5	0		0	0	
Missouri:											
Kansas City	3		2	1	19	43	0	7	0	2	116
St. Joseph	1		0	0	7	2	0	0	0	0	26
St. Louis	10		2	1	21	61	0	13	0	2	259
North Dakota:											
Fargo	0		0	0	0	8	0	0	0	0	6
Grand Forks	0			0		0	9		0	0	
Minot	0		0	0	0	18	0	0	0	0	4
South Dakota:											
Aberdeen	0			0		1	0		0	0	
Sioux Falls	0		0	0	0	11	1	0	0	0	6
Nebraska:											
Omaha	1		0	1	10	76	5	3	0	0	73
Kansas:											
Lawrence	0		0	0	3	0	0	0	0	0	7
Topeka											
Wichita	1		1	0	12	20	0	0	0	0	39
Delaware:											
Wilmington	0		0	2	4	1	0	0	0	10	34
Maryland:											
Baltimore	3	19	1	36	23	28	0	9	1	34	248
Cumberland	1		2	0	0	2	0	0	0	0	10
Frederick	0		0	0	0	0	0	1	0	0	9
District of Col.:											
Washington	21	4	2	8	29	20	0	23	0	12	214
Virginia:											
Lynchburg	0		0	4	4	1	0	1	0	1	17
Norfolk	0	227	0		16	4	0	2	0	1	49
Richmond	1		10	0	17	9	0	1	0	0	82
Roanoke	1		1	0	5	3	0	0	0	0	16
West Virginia:											
Charleston	2	1	0	0	5	1	0	1	0	0	19
Huntington	0			0		1	0		0	0	
Wheeling	0		2	2	5	0	0	0	0	0	25
North Carolina:											
Gastonia	0		0	0	1	0	0	0	0	0	4
Raleigh											
Wilmington	0		0	0	3	0	0	1	0	0	12
Winston-Salem	0	3	1	98	8	2	0	2	0	0	14
South Carolina:											
Charleston	0	432	7	0	5	0	0	1	0	0	36
Columbia											
Greenville	0		0	21	2	0	0	1	0	0	8
Georgia:											
Atlanta	5	396	7	1	23	8	0	8	0	0	135
Brunswick	1		0	0	1	0	0	0	0	0	4
Savannah	0	207	8	0	7	1	0	2	1	0	41
Florida:											
Miami	0		0	1	5	0	0	2	0	4	32
Tampa	0	1	1	0	3	4	0	0	0	0	27
Kentucky:											
Ashland	2	7		0		0	0		0	0	
Covington	0		0	1	3	0	0	1	0	2	34
Lexington	0		0	0	6	0	0	2	0	0	25
Louisville	1	3	1	4	11	15	0	2	0	27	68
Tennessee:											
Knoxville	1	3	3	10	5	2	0	1	0	0	39
Memphis	5		6	0	20	7	0	7	0	7	110
Nashville	0		1	0	13	0	0	3	1	1	55
Alabama:											
Birmingham	0	91	3	0	21	6	0	6	0	0	86
Mobile	0	133	1	0	3	0	0	1	0	0	24
Montgomery	1	43		1		1	0		0	1	
Arkansas:											
Fort Smith											
Little Rock	1		1	0	10	3	0	4	0	0	16
Louisiana:											
Lake Charles	0		0	0	1	0	0	0	0	0	9
New Orleans	8	13	10	24	23	0	0	6	0	18	199
Shreveport	2		0	18	17	0	0	2	0	0	76
Oklahoma:											
Oklahoma City	0	29	0	0	7	3	0	3	0	0	57

## City reports for week ended Feb. 22, 1936—Continued

State and city	Diphtheria cases	Influenza		Measles cases	Pneumonia deaths	Scarlet fever cases	Small-pox cases	Tuberculosis deaths	Typhoid fever cases	Whooping cough cases	Deaths, all causes
		Cases	Deaths								
<b>Texas:</b>											
Dallas.....	4	1	1	57	16	7	0	3	0	3	71
Fort Worth.....	0	—	2	2	9	4	0	0	0	0	46
Galveston.....	2	—	0	5	5	2	0	2	0	0	24
Houston.....	4	—	2	26	16	3	0	3	1	0	81
San Antonio.....	1	—	15	0	13	4	0	11	0	0	92
<b>Montana:</b>											
Billings.....	0	—	0	0	2	20	0	0	0	1	10
Great Falls.....	0	—	0	0	0	7	0	0	0	5	11
Helena.....	0	—	0	0	1	0	0	0	0	0	11
Missoula.....	0	—	0	8	1	11	0	0	0	0	6
<b>Idaho:</b>											
Boise.....	0	—	0	3	1	12	0	1	0	0	4
<b>Colorado:</b>											
Colorado Springs.....	0	—	0	0	2	1	2	2	0	0	9
Denver.....	4	—	2	11	8	30	1	6	0	9	96
Pueblo.....	0	—	1	0	3	24	0	2	0	0	17
<b>New Mexico:</b>											
Albuquerque.....	1	—	0	1	5	23	0	1	0	4	18
<b>Utah:</b>											
Salt Lake City.....	0	—	1	1	2	78	0	1	0	6	40
<b>Nevada:</b>											
Reno.....	—	—	—	—	—	—	—	—	—	—	—
<b>Washington:</b>											
Seattle.....	0	—	8	53	14	23	2	6	0	1	115
Spokane.....	0	1	1	7	3	8	0	1	0	0	34
Tacoma.....	0	—	—	6	2	2	0	2	0	0	20
<b>Oregon:</b>											
Portland.....	0	—	1	318	11	13	0	1	1	1	91
Salem.....	0	2	—	7	—	3	0	—	0	0	—
<b>California:</b>											
Los Angeles.....	12	243	8	385	29	102	0	28	1	19	379
Sacramento.....	0	22	4	10	9	5	0	2	0	2	48
San Francisco.....	0	26	4	356	13	64	0	9	0	13	185

State and city	Meningococcus meningitis		Polio-myelitis cases	State and city	Meningococcus meningitis		Polio-myelitis cases
	Cases	Deaths			Cases	Deaths	
<b>Massachusetts:</b>				<b>Maryland:</b>			
Boston.....	2	2	0	Baltimore.....	8	3	0
Worcester.....	1	0	0	<b>District of Columbia:</b>			
<b>Rhode Island:</b>				Washington.....	4	0	0
Providence.....	1	1	0	<b>Virginia:</b>			
<b>Connecticut:</b>				Roanoke.....	1	0	0
New Haven.....	1	0	0	<b>West Virginia:</b>			
<b>New York:</b>				Wheeling.....	1	0	0
Buffalo.....	3	0	0	<b>South Carolina:</b>			
New York.....	16	10	0	Charleston.....	8	1	0
<b>New Jersey:</b>				Greenville.....	0	1	0
Newark.....	1	0	0	<b>Georgia:</b>			
<b>Pennsylvania:</b>				Atlanta.....	2	0	0
Philadelphia.....	1	1	0	<b>Florida:</b>			
<b>Ohio:</b>				Tampa.....	1	0	0
Cincinnati.....	2	0	0	<b>Kentucky:</b>			
Cleveland.....	2	1	0	Lexington.....	1	0	0
Toledo.....	2	0	0	<b>Tennessee:</b>			
<b>Indiana:</b>				Memphis.....	0	1	0
Indianapolis.....	2	0	0	<b>Alabama:</b>			
<b>Illinois:</b>				Birmingham.....	1	1	0
Chicago.....	8	0	0	<b>Louisiana:</b>			
Springfield.....	3	1	0	New Orleans.....	3	1	0
<b>Michigan:</b>				Shreveport.....	0	3	0
Detroit.....	1	0	0	<b>Oklahoma:</b>			
<b>Minnesota:</b>				Oklahoma City.....	1	2	0
Minneapolis.....	0	3	0	<b>Texas:</b>			
<b>Iowa:</b>				Fort Worth.....	1	1	0
Sioux City.....	2	0	0	Houston.....	3	1	0
<b>Missouri:</b>				<b>California:</b>			
St. Joseph.....	1	0	0	Los Angeles.....	2	1	0
<b>Nebraska:</b>				Sacramento.....	1	0	0
Omaha.....	2	1	0	San Francisco.....	1	0	0

Epidemic encephalitis.—Cases: Minneapolis, 1; St. Louis, 1; San Francisco, 1.

Pellagra.—Cases: Chicago, 1; Memphis, 1; Nashville, 1; Dallas, 2; San Francisco, 1.

## FOREIGN AND INSULAR

### EGYPT

*Infectious diseases—First quarter 1935.*—During the first quarter of 1935, certain infectious diseases were reported in Egypt as follows:

Disease	Cases	Deaths	Disease	Cases	Deaths
Anthrax.....	3	—	Plague.....	6	6
Cerebrospinal fever.....	128	99	Polomyelitis.....	4	2
Chicken pox.....	458	2	Puerperal septicemia.....	120	111
Dengue.....	1	—	Rabies.....	2	2
Diphtheria.....	393	169	Scarlet fever.....	21	—
Dysentery.....	295	85	Smallpox.....	124	16
Epidemic jaundice.....	1	—	Tetanus.....	90	61
Erysipelas.....	764	139	Tuberculosis (pulmonary).....	1,028	652
Influenza.....	1,700	155	Typhoid fever.....	593	181
Leprosy.....	49	23	Typhus fever.....	1,458	219
Malaria.....	227	4	Undulant fever.....	1	—
Measles.....	1,383	246	Whooping cough.....	396	35
Mumps.....	190	1	*		

*Vital statistics—First quarter 1935.*—Following are vital statistics for the first quarter of 1935 in all places of Egypt having a health bureau:

Population.....	4,603,100	Deaths per 1,000 population.....	24.2
Live births.....	52,378	Deaths from diarrhea and enteritis under 2 years.....	3,795
Births per 1,000 population.....	45.5	Infant mortality per 1,000 live births.....	132
Stillbirths.....	855		
Total deaths.....	27,895		

### ITALY

*Communicable diseases—4 weeks ended January 5, 1936.*—During the 4 weeks ended January 5, 1936, certain communicable diseases were reported in Italy as follows:

Disease	Dec. 9-15		Dec. 16-22		Dec. 23-29		Dec. 30, 1935-Jan. 5, 1936	
	Cases	Communes affected	Cases	Communes affected	Cases	Communes affected	Cases	Communes affected
Anthrax.....	16	16	16	14	17	16	15	15
Cerebrospinal meningitis.....	13	12	10	10	13	12	13	10
Chicken pox.....	330	110	371	119	236	94	320	120
Diphtheria and croup.....	721	300	548	280	537	275	521	301
Dysentery.....	11	5	9	8	3	3	5	5
Hookworm disease.....	1	1	8	4	4	4	1	1
Lethargic encephalitis.....	1	1	4	4	—	—	5	4
Measles.....	1,123	200	926	180	844	162	943	198
Paratyphoid fever.....	64	54	56	37	76	27	29	26
Polomyelitis.....	18	11	13	12	13	12	16	15
Puerperal fever.....	51	46	39	39	32	32	46	40
Rabies.....	—	—	—	—	1	1	—	—
Scarlet fever.....	513	208	391	156	359	132	327	147
Smallpox.....	3	1	—	—	—	—	—	—
Typhoid fever.....	427	240	321	202	275	146	279	176
Undulant fever.....	24	18	8	8	25	17	19	16
Whooping cough.....	208	74	167	63	138	55	175	76

## YUGOSLAVIA

*Communicable diseases—January 1936.*—During the month of January 1936, certain communicable diseases were reported in Yugoslavia as follows:

Disease	Cases	Deaths	Disease	Cases	Deaths
Anthrax.....	32	—	Paratyphoid fever.....	12	1
Cerebrospinal meningitis.....	14	5	Scarlet fever.....	534	13
Diphtheria and croup.....	848	68	Sepsis.....	10	1
Dysentery.....	22	6	Tetanus.....	13	6
Erysipelas.....	345	16	Typhoid fever.....	674	68
Lethargic encephalitis.....	2	—	Typhus fever.....	131	8
Measles.....	611	11			

## CHOLERA, PLAGUE, SMALLPOX, TYPHUS FEVER, AND YELLOW FEVER

NOTE.—A table giving current information of the world prevalence of quarantinable diseases appeared in the PUBLIC HEALTH REPORTS for February 28, 1936, pages 227-240. A similar cumulative table will appear in the PUBLIC HEALTH REPORTS to be issued March 27, 1936, and thereafter, at least for the time being, in the issue published on the last Friday of each month.

## CHOLERA

*India—Moulmein.*—During the week ended February 22, 1936, one fatal case of cholera was reported at Moulmein, India.

*Siam—Bisnulok.*—During the week ended February 22, 1936, one case of cholera was reported at Bisnulok, Siam.

## PLAGUE

*Argentina—Bahia Blanca.*—A report dated February 28, 1936, states that one death from bubonic plague and one suspected case of plague were reported near Bahia Blanca, Argentina.

*Hawaii Territory—Hawaii Island—Hamakua District—Hamakua Mill Sector.*—On February 19, 1936, one plague-infected rat was reported in Hamakua Mill Sector, Hamakua District, Hawaii Island, Hawaii Territory.

## SMALLPOX

*Ceylon—Colombo.*—During the week ended January 18, 1936, one case of smallpox was reported at Colombo, Ceylon.

## YELLOW FEVER

*Brazil.*—Yellow fever has been reported in Brazil as follows: February 9, 1936, one case with one death at Londrina, Parana State; during the period February 3-6, 1936, two cases with two deaths were reported at Araraquara, Sao Paulo State.